Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Solution | Phth (colorless or pink) | Methyl orange (red or yellow) | Bromothymol blue (yellow, green, or blue) | Blue litmus paper (blue or red) | Red litmus paper (red or blue) | pH paper (write pH from tube) |
| Tap water |  |  |  |  |  |  |
| Distilled  water |  |  |  |  |  |  |
| Soap |  |  |  |  |  |  |
| 7 up |  |  |  |  |  |  |
| NaOH (aq) |  |  |  |  |  |  |
| Glass cleaner |  |  |  |  |  |  |
| Milk |  |  |  |  |  |  |
| Lemon Juice |  |  |  |  |  |  |

Questions:

1.) Classify each of the solutions that you tested as an acid, a base, or neutral:

|  |
| --- |
| Tap water |
| Distilled water |
| Soap |
| 7 up |
| NaOH (aq) |
| Glasscleaner |
| Milk |
| Lemon juice |

2.) To the best of your ability rank the 9 samples tested from strongest acid (1) to strongest base (8),

based on the outcome of the indicator tests.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3.) If you have an unknown substance that tastes bitter and turn blue in bromthymol blue, is the

solution an acid, a base, or neutral? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4.) Explain why methyl orange is ineffective when determining if you have an acid or a base.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5.) Determine what color each of the following pH values will turn in the different indicators listed:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| pH | Phenolpthalein | Methyl orange | Bromphenol blue | Thymol Blue |
| 2 |  |  |  |  |
| 5 |  |  |  |  |
| 7 |  |  |  |  |
| 9 |  |  |  |  |
| 14 |  |  |  |  |

6.) If you had two solutions, one had a pH of 2 and one had a pH of 5 but you didn’t know which

was which, what indicator do you think would be most appropriate to use?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Explain your reasoning: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7.) If you had two solutions, one had a pH of 8 and one had a pH of 14 but you didn’t know which

was which, what indicator do you think would be most appropriate to use?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Explain your reasoning: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_